

ORIGINAL LOG BOOK OF THE "FISH HAWK"

UNITED STATES FISH COMMISSION

yr. 1903 STATION NUMBERS

Numbers 7396 to 7445

RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. 7396
 Date, Jan. 5, 1903
 Time of day, 12:53 ; of tide, $\frac{3}{4}$ flood
 Locality, Bahia Honda Harbor, Fla.
 Exact position, near P. S. buoy
 Depth, 15 feet.
 Nature of bottom, rocky & dead shells
 Dredging instrument used, small scrape dredge
 Direction of drift, N. W. ; distance, 1/2 mile
 Temperature of air, 68 therm. No.,
 " of surface water, "
 " at depth of fathoms, "
 " at bottom, "
 Density at surface, 1.0240 temp., 21.5
 " at depth of fathoms, "
 " at bottom, "
 Number of salinometer, 7457
 Barometer reading, 29.87
 State of sky, Partly cloudy
 Direction of wind, N. E. ; force, 2
 Rain,
 Direction of surface current, ; force,
 " of bottom " ; force,
 Name of vessel, Fish Hawk
 Service to which attached, Fish Commission
 Name and rank of commanding officer, James A. Smith
 Boatswain, U. S. N.
 Name and position of observer, Vernon E. West.

NOTES RELATING TO STATION NO. 7396

1 piece of coral

1 black sea urchin.

RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. *2397*
 Date, *June 5, 1903*
 Time of day, *121* ; of tide, *High water*
 Locality, *Big Spanish Key Channel*
 Exact position, *Between Little Pine Key & No Name Key, Fla.*
 Depth, *13 feet*
 Nature of bottom, *rocky, sand & shells*
 Dredging instrument used, *Small scrape dredge*
 Direction of drift, *N. W.* ; distance, *1/2 mile*
 Temperature of air, *70* therm. No.,
 " of surface water, "
 " at depth of fathoms, "
 " at bottom, "
 Density at surface, *1.0233* temp., *21*
 " at depth of fathoms, "
 " at bottom, "
 Number of salinometer, *7450*
 Barometer reading, *29.86*
 State of sky, *Partly cloudy*
 Direction of wind, *N. E.* ; force, *2*
 Rain,
 Direction of surface current, ; force,
 " of bottom " ; force,
 Name of vessel, *Fish Hawk*
 Service to which attached, *Fish Commission*
 Name and rank of commanding officer, *James A. Smith*
Boatswain, U. S. N.
 Name and position of observer, *Vernon E. West.*

NOTES RELATING TO STATION NO. 7392

Few small worms
amphipods
1 small crab.
1 foot fish
1 shrimp.

RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. 7398

Date, Jan. 5, 1903

Time of day, 1:48 ; of tide, High water

Locality, Bay of Spanish Key Channel

Exact position, Between Porpoise Key & Grassy Key, Fla.

Depth, 11 feet

Nature of bottom, Mud & rock

Dredging instrument used, 3 ft. beam trawl & dredge

Direction of drift, S. W. ; distance, 1/2 mile

Temperature of air, 70 therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, 1.0237 temp., 21.5

" at depth of fathoms, "

" at bottom, "

Number of salinometer, 7450

Barometer reading, 29.86

State of sky, Partly clear

Direction of wind, N. E. ; force, 2

Rain,

Direction of surface current, ; force,

" of bottom " ; force,

Name of vessel, Fish Hawk

Service to which attached, Fish Commission

Name and rank of commanding officer, James G. Smith

Boatswain, U. S. N.

Name and position of observer,

Vernon E. West.

NOTES RELATING TO STATION NO. 2395

Found worms

Found shrimp

2 species of fish

RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. 7399

Date, Jan. 5, 1903

Time of day, 3:12 ; of tide, $\frac{1}{4}$ ebb.

Locality, Friend Key Lake, Fla.

Exact position, Opposite south end
of Johnson's Key

Depth, 13 feet.

Nature of bottom, Rocky 3 ft beam trawls

Dredging instrument used, Small scoop dredge.

Direction of drift, S. W. ; distance, $\frac{1}{4}$ mile

Temperature of air, 69 therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, 1.0241 temp., 21

" at depth of fathoms, "

" at bottom, "

Number of salinometer, 7750

Barometer reading, 29.85

State of sky, Partly clear

Direction of wind, N. E. ; force, 2

Rain,

Direction of surface current, ~ ; force,

" of bottom " ; force,

Name of vessel, Fish Hawk

Service to which attached, Fish Commission

Name and rank of commanding officer, James A. Smith

Boatswain, U. S. N.

Name and position of observer,

Vernon E. West.

NOTES RELATING TO STATION NO. 2392

1 small sea-robin

2 small crabs

1 small conch

RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. 7400
 Date, Jan. 5, 1903
 Time of day, 3:49 ; of tide, $\frac{1}{4}$ Ebb
 Locality, Friend Key Lake Fla.
 Exact position, Southern end of Friend
 Key Lake. Fla.
 Depth, 11 feet
 Nature of bottom, Rocky
 Dredging instrument used, Small scrape-dredge
 Direction of drift, S. E. ; distance, $\frac{1}{6}$ mile
 Temperature of air, 69 therm. No.,
 " of surface water, "
 " at depth of fathoms, "
 " at bottom, "
 Density at surface, 1.0243 temp., 21
 " at depth of fathoms, "
 " at bottom, "
 Number of salinometer, 7450
 Barometer reading, 29.85
 State of sky, Partly clear.
 Direction of wind, N. E. ; force, 2
 Rain,
 Direction of surface current, ; force,
 " of bottom " ; force,
 Name of vessel, Fish Hawk
 Service to which attached, Fish Commission
 Name and rank of commanding officer, James H. Smith
 Boatswain, U. S. N.
 Name and position of observer,
 Vernon E. West.

NOTES RELATING TO STATION NO. 712

Few shrimp 1 crab

Few worms

Several amphipods

1 glass sponge

A few glass and logg-
head sponges

RECORD OF DREDGING.

TEMPERATURE AND DENSITY.

Station No. 7446

Date, Jan. 7, 1903

Time of day, 8:30 A.M. of tide, N. 2/3

Locality, Money Key Lake, Fla.

Exact position, 1/2 mile north of Eastern
end of Bahia Honda Key.

Depth, 8 feet

Nature of bottom, rocky

Dredging instrument used, small dredge

Direction of drift, N. E. ; distance, 1/2 mile

Temperature of air, 62

therm. No.,

" of surface water, ..

" at depth of fathoms, ..

" at bottom, ..

Density at surface, 1.0253

temp., 17.5

" at depth of fathoms, "

" at bottom, "

Number of salinometer, 7450

Barometer reading, 30.04

State of sky, Partly clear

Direction of wind, S. S. W. ; force, 1

Rain,

Direction of surface current, ; force,

" of bottom " ; force,

Name of vessel, Fish Hawk

Service to which attached, Fish Commission

Name and rank of commanding officer, James A. Smith

Boatswain, U. S. N.

Name and position of observer,

Vernon E. Nash

NOTES RELATING TO STATION NO. 7411

1 sheep's wool sponge

1 small shell

1 species of shrimp

1 murelet

1 small fish

RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. 7402

Date, Jan 7, 1903

Time of day, 9:02 A.M.; of tide, $\frac{1}{4}$ ebb.

Locality, Pigeon Key Lake, Fla.

Exact position, nearly 1 mile N N E of

of Money Key

Depth, 2 feet

Nature of bottom, Sand & grass.

Dredging instrument used, small scoop-dredge

Direction of drift, N. E. ; distance, $\frac{1}{2}$ mile

Temperature of air, 64 therm. No..

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, 1.0252 temp., 78.5

" at depth of fathoms, "

" at bottom, "

Number of salinometer, 7450

Barometer reading, 30.05

State of sky, Partly cloudy

Direction of wind, S.W. ; force, 2

Rain,

Direction of surface current, ; force,

" of bottom " ; force,

Name of vessel, Fish Hawk

Service to which attached, Fish Commission

Name and rank of commanding officer, James A. Smith

Acting Master, U. S. N.

Name and position of observer,

Vernon E. Mack

NOTES RELATING TO STATION NO. 7812

2 species of shrimp

2 species of crabs

amphipods

or ubs

2 species of fish

1 little star

1 new species of alpheids?

RECORD OF DREDGING.

TEMPERATURE AND DENSITY.

Station No. 7403
 Date, Jan. 7, 1893
 Time of day, 9:40 ; of tide, $\frac{1}{2}$ ebb.
 Locality, Pigeon Key Lake, Fla.
 Exact position, 1 mile S. S. E. of Coconut
 Key
 Depth, 2 feet
 Nature of bottom, rocky
 Dredging instrument used, small scraper dredge
 Direction of drift, N. W. ; distance, $\frac{1}{2}$ mile
 Temperature of air, 64 therm. No.,
 " of surface water, "
 " at depth of fathoms, "
 " at bottom, "
 Density at surface, 1.0248 temp., 12.5
 " at depth of fathoms, "
 " at bottom, "
 Number of salinometer, 7450
 Barometer reading, 30.05
 State of sky, Clear
 Direction of wind, S. W. ; force, 2
 Rain,
 Direction of surface current, ; force,
 " of bottom " ; force,
 Name of vessel, Fish Hawk
 Service to which attached, Fish Commission
 Name and rank of commanding officer, James A. Smith
 Boatswain, U. S. N.
 Name and position of observer,
 Vernon E. West.

NOTES RELATING TO STATION NO. 7423.

2 species of shrimp

1 small fish

1 species of crabs

amphipods

Several dough-like finger sponges

Few worms.

RECORD OF DREDGING,

TEMPERATURE AND DENSITY.

Station No. 7404
 Date, Jun. 7, 1903
 Time of day, 10:25 ; of tide, $\frac{3}{4}$ ebb
 Locality, Pigeon Key Lake, Fla.
 Exact position, 1 mile east of East Bahia Honda Key
 Depth, $10\frac{1}{2}$ feet
 Nature of bottom, rocky
 Dredging instrument used, small scrape-dredge
 Direction of drift, N. N. W. ; distance, $\frac{1}{2}$ mile
 Temperature of air, 64 therm. No.,
 " of surface water, " "
 " at depth of fathoms, " "
 " at bottom, " "
 Density at surface, 1.0249 temp., 17
 " at depth of fathoms, "
 " at bottom, "
 Number of salinometer, 7450
 Barometer reading, 30.05
 State of sky, Clear
 Direction of wind, S. W. ; force, 3
 Rain,
 Direction of surface current, ; force,
 " of bottom " ; force,
 Name of vessel, Fish Hawk
 Service to which attached, Fish Commission
 Name and rank of commanding officer, James A. Smith
 Lieutenant, U. S. N.
 Name and position of observer,

Vernon C. Hunt

NOTES RELATING TO STATION NO. 2405

- 1 star-fish
- 3 species of urchins
- 2 " " fish
- 2 " " shrimp
- few finger sponges
- 1 worm
- few pieces of coral

RECORD OF DREDGING.

TEMPERATURE AND DENSITY.

Station No. 7495

Date, Jan. 7, 1903

Time of day, 10:50 ; of tide, Low water

Locality, Pigeon Key Lake, Fla.

Exact position, 1 mile east of Signal
Cannon

Depth, 10 feet.

Nature of bottom, rocky

Dredging instrument used, small scrape dredge

Direction of drift, East ; distance, 1/2 mile

Temperature of air, 64 therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, 1.0242 temp., 17.5

" at depth of fathoms, "

" at bottom, "

Number of salinometer, 7450

Barometer reading, 30.05

State of sky, Clear

Direction of wind, S W ; force, 3

Rain,

Direction of surface current, ; force,

" of bottom " ; force,

Name of vessel, Fish Hawk

Service to which attached, Fish Commission

Name and rank of commanding officer, James A. Smith
Breitwieser, U. S. N.

Name and position of observer,

Vernon C. West

NOTES RELATING TO STATION NO. 2485

- 2 species of fish
- several birds
- 1 worm
- 3 small sheep's wool sponges

RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. 7406

Date, Jan. 7, 1903

Time of day, 11:20 ; of tide, Low water.

Locality, Pigeon Key Lake, Fla.

Exact position, 2 1/2 miles N. E. of

Pigeon Key to western end of Bay Breeze

Depth, 10 1/2 feet

Nature of bottom, rocky

Dredging instrument used, small scrape-dredge

Direction of drift, S. W. ; distance, 1/2 mile

Temperature of air, 64 therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, 1.0236 temp., 12.5

" at depth of fathoms, "

" at bottom, "

Number of salinometer, 7450

Barometer reading, 30.04

State of sky, Clear

Direction of wind, S. W. ; force, 3

Rain,

Direction of surface current, ; force,

" of bottom " ; force,

Name of vessel, Fish Hawk

Service to which attached, Fish Commission

Name and rank of commanding officer, James C. Smith
Boatsman, U. S. N.

Name and position of observer,
Vernon C. West

NOTES RELATING TO STATION NO. 3442

small fish
small grasshoppers
small

RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. 7427

Date, Jan. 7, 1903

Time of day, 11:55 A. M. of tide, $\frac{1}{2}$ flood.

Locality, Pigeon Key Lake, Fla.

Exact position, $2\frac{3}{4}$ miles N. N. W. of
Provincetown Key

Depth, $9\frac{1}{2}$ feet

Nature of bottom, rocky

Dredging instrument used, small scrape dredge

Direction of drift, S. W. ; distance, $\frac{1}{2}$ mile

Temperature of air, 64 therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, 1.0242 temp., 18

" at depth of fathoms, "

" at bottom, "

Number of salinometer, 7750

Barometer reading, 30.03

State of sky, Clear

Direction of wind, S. W. ; force, 3

Rain,

Direction of surface current, ; force,

" of bottom " ; force,

Name of vessel, Fish Hawk

Service to which attached, Fish Commission

Name and rank of commanding officer, James A. Smith

Retiree in, U. S. N.

Name and position of observer,

Vernon C. West

NOTES RELATING TO STATION NO. 2812

1 small fish
1 large fish
1 shrimp
1 loggerhead sponge

RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. 7408

Date, Jan. 7, 1913

Time of day, 1:20 P.M.; of tide, $\frac{1}{4}$ flood.

Locality, Pigeon Key Lake Fla.

Exact position, $\frac{1}{2}$ miles N. x E. of
Pigeon Key.

Depth, 12 feet.

Nature of bottom, rocky.

Dredging instrument used, small scrape-dredge

Direction of drift, N. E.; distance, $\frac{1}{2}$ mile

Temperature of air, 64 therm. No.,

" of surface water, "

" at depth of fathoms. "

" at bottom, "

Density at surface, 1.0246 temp., 18.57

" at depth of fathoms, "

" at bottom, "

Number of salinometer, 7450

Barometer reading, 30.03

State of sky, Partly clear.

Direction of wind, S. W.; force, 3

Rain,

Direction of surface current, ; force,

" of bottom " ; force,

Name of vessel, Fish Hawk

Service to which attached, Fish Commission

Name and rank of commanding officer, James C. Smith
Boatswain, U. S. N.

Name and position of observer,

Vernon C. West

NOTES RELATING TO STATION NO. 2946

2 fish

few animals

RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. 7409
 Date, Jan. 7, 1903
 Time of day, 3:00 P. M.; of tide, $\frac{1}{2}$ flood
 Locality, Pigeon Key Lake, Fla
 Exact position, $1\frac{1}{2}$ mile N. W. of Knight's
 Key
 Depth, $10\frac{1}{2}$ feet
 Nature of bottom, rocky
 Dredging instrument used, Small scrape dredge
 Direction of drift, N. E. ; distance, 40 rods
 Temperature of air, 65 therm. No.,
 " of surface water, "
 " at depth of fathoms, "
 " at bottom, "
 Density at surface, 1.0248 temp., 18
 " at depth of fathoms, "
 " at bottom, "
 Number of salinometer, 7450
 Barometer reading, 29.98
 State of sky, Partly cloudy
 Direction of wind, S. W. ; force, 3
 Rain,
 Direction of surface current, : force,
 " of bottom " : force,
 Name of vessel, Fish Hawk
 Service to which attached, Fish Commission
 Name and rank of commanding officer, James A. Smith
 Bratslain, U. S. N.
 Name and position of observer,
 Vernon E. Wood.

NOTES RELATING TO STATION NO. 2922

5 small fish
1 sharp wood sponge
several loggers head sponges
1 brown
several mussels
several small crabs

RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. 7410

Date, Jan. 8, 1903

Time of day, 8:45 A. M. of tide, $\frac{1}{2}$ ebb

Locality, North of Knight's Key Channel, Fla.

Exact position, $\frac{1}{2}$ mile to eastward of middle of Big Bank.

Depth, 9 feet

Nature of bottom, rocky

Dredging instrument used, Small scrape dredge

Direction of drift, West ; distance, $\frac{1}{4}$ mile

Temperature of air, 66 therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, 1.0240 temp., 18.5

" at depth of fathoms, "

" at bottom, "

Number of salinometer, 7450

Barometer reading, 29.90

State of sky, Clear

Direction of wind, N. N. W.; force, 3

Rain, —

Direction of surface current, ; force,

" of bottom " ; force,

Name of vessel, Fish Hawk

Service to which attached, Fish Commission

Name and rank of commanding officer, James A. Smith
Boatswain, U. S. N.Name and position of observer,
James A. Smith

NOTES RELATING TO STATION NO. 2812.

2 small steep root sponges
1 small fish
several crabs

~~several crabs~~

1 grass sponge
several finger sponges
several worms
a species of shrimp
mud

RECORD OF DREDGING.

TEMPERATURE AND DENSITY.

Station No. 7411

Date, Jan. 22, 1913

Time of day, 8:46 A.M., of tide, $\frac{1}{2}$ flood

Locality, N. of Knight's Key Channel, Fla.

Exact position, $3\frac{1}{2}$ mi. E. x N. of East Rabbit

Hondar Key.

Depth, 10 feet.

Nature of bottom, rocky

Dredging instrument used, small scrape dredge.

Direction of drift, N. W. ; distance, $\frac{1}{2}$ mile

Temperature of air, 69 therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, 1.0229 temp., 20

" at depth of fathoms, "

" at bottom, "

Number of salinometer, 7450

Barometer reading, 30.04

State of sky, cloudy

Direction of wind, N. W. W. ; force, 2

Rain.

Direction of surface current, ; force,

" of bottom " ; force,

Name of vessel, Fish Hawk

Service to which attached, Fish Commission

Name and rank of commanding officer, James A. Smith
Lieutenant, U. S. N.

Name and position of observer,

Vernon C. Went

NOTES RELATING TO STATION NO. 2911

- 2 species of fish
- Several annelids
- 3 species crabs
- 2 species gorgonias
- 5 species of sponges
- 2 species of scapods

RECORD OF DREDGING.

TEMPERATURE AND DENSITY.

Station No. 7412

Date, Jan. 22, 1903

Time of day, 9:20 A.M.; of tide, $\frac{1}{2}$ flood.

Locality, N. of Knights Key, Fla.

Exact position, 3 m. N. E. & N. of East Bahis
Honda Key.

Depth, 11 feet

Nature of bottom, no clay

Dredging instrument used, Small scrape dredge

Direction of drift, N. W. ; distance, $\frac{1}{2}$ mile

Temperature of air, 70 therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, 1.0236 temp., 20

" at depth of fathoms, "

" at bottom, "

Number of salinometer, 7450

Barometer reading, 30.06

State of sky, Cloudy

Direction of wind, N. N. W.; force, 1.

Rain,

Direction of surface current, ; force,

" of bottom " ; force,

Name of vessel, Fish Hawk

Service to which attached, Fish Commission

Name and rank of commanding officer, James A. Smith

Boatsman, U.S.N.

Name and position of observer,

Vernon E. Hunt

NOTES RELATING TO STATION NO. 2412

Several species of corals

2 corals

Several sponges

Several brachyopods

Several starfishes

Several worms

2 species of Amphipods

1 fish

Buttle stars

1 other fish

Several species of sponge

2 gorgonians

RECORD OF DREDGING.

TEMPERATURE AND DENSITY.

Station No. 7413

Date, Jan. 22, 1913

Time of day, 11:15 A.M.: of tide, High Water

Locality, N. of Knights Key, Fla.

Exact position, $4\frac{3}{4}$ mi. N. N. E. of Head
Bahia Honda Key.Depth, $11\frac{1}{2}$ feet

Nature of bottom, Sand, green & brown

Dredging instrument used, Small scoop dredge

Direction of drift, East; distance, $\frac{1}{4}$ mile

Temperature of air, 71 therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, 1.0244 temp., 20

" at depth of fathoms, "

" at bottom, "

Number of salinometer, 74350

Barometer reading, 30.08

State of sky, Cloudy.

Direction of wind, Calm; force, 0

Rain, /

Direction of surface current, ; force,

" of bottom " ; force,

Name of vessel, Fish Hawk

Service to which attached, Fish Commission

Name and rank of commanding officer, James H. Smith
Boatswain, U. S. N.

Name and position of observer,

Vernon E. Wash.

NOTES RELATING TO STATION NO. 291

several crabs

a clam

1 pipe fish

few worms

few sponges

RECORD OF DREDGING.

TEMPERATURE AND DENSITY.

Station No. *7414*
 Date. *Jan. 22, 1915*
 Time of day. *10:15 A.M.*; of tide. *High Water*
 Locality, *N. of Knights Key, Fla.*
 Exact position, *4 mi. N.N.E. of East*
Bahia Honda Key.
 Depth, *11 feet.*
 Nature of bottom, *Sandy*
 Dredging instrument used, *Small iron apron dredge*
 Direction of drift, *S. E.*; distance, *20 miles*
 Temperature of air, *70* therm. No.,
 " of surface water, "
 " at depth of fathoms, "
 " at bottom, "
 Density at surface, *1.0237* temp., *20.5*
 " at depth of fathoms, "
 " at bottom, "
 Number of salinometer, *7450*
 Barometer reading, *30.09*
 State of sky, *Partly clear*
 Direction of wind, *N. N. W.*; force, *1*
 Rain, ,
 Direction of surface current, ; force,
 " of bottom " ; force,
 Name of vessel, *Fish Hawk.*
 Service to which attached, *Fish Commission*
 Name and rank of commanding officer, *James A. Smith,*
Boatswain, U. S. N.
 Name and position of observer,
Vernon C. Hunt

NOTES RELATING TO STATION NO. 2712

few ~~small~~
sponges
~~small~~
units

RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. *7415*
 Date, *Jan. 22, 1903*
 Time of day, *11 45 A.M.*; of tide, *1/2 ebb*
 Locality, *N. of Houghton Key, Fla.*
 Exact position, *6 mi. N. E. x E. of East*
Bahia Honda Key
 Depth, *11 feet*
 Nature of bottom, *Hard sand & rock*
 Dredging instrument used, *Small scrape dredge*
 Direction of drift, *S. E.* ; distance, *1/2 mile*
 Temperature of air, *70* therm. No.,
 " of surface water, "
 " at depth of fathoms, "
 " at bottom, "
 Density at surface, *1.0230* temp., *20.1°*
 " at depth of fathoms, "
 " at bottom, "
 Number of salinometer, *7450*
 Barometer reading, *30.03*
 State of sky, *Partly clear.*
 Direction of wind, *N. N. W.* ; force, *1*
 Rain, ,
 Direction of surface current, ; force,
 " of bottom " ; force,
 Name of vessel, *Fish Hawk*
 Service to which attached, *Fish Commission*
 Name and rank of commanding officer, *J. C. Smith*
1st Lieutenant, U. S. N.
 Name and position of observer,
Vernon E. Wheat.

NOTES RELATING TO STATION NO. 2422

See notes

See pages

RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. *7416*

Date, *Jan. 22, 1913*

Time of day, *1:15 P.M.*; of tide, *4 ebb*

Locality, *N. of Knights Key, Fla.*

Exact position, *2 3/4 mi. N. of Basin Bank*

Depth, *10 1/2 feet*

Nature of bottom, *no clay*

Dredging instrument used, *Small scrape dredge*

Direction of drift, *S. E.*; distance, *1/2 mi.*

Temperature of air, *68* therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, *1.0213* temp., *21*

" at depth of fathoms, "

" at bottom, "

Number of salinometer, *7450*

Barometer reading, *30.07*

State of sky, *Partly clear*

Direction of wind, *W. N. W.*; force, *3*

Rain, "

Direction of surface current, ; force,

" of bottom " ; force,

Name of vessel, *Fish Hawk*

Service to which attached, *Fish Commission*

Name and rank of commanding officer, *James A. Smith*

Bentley 2 1/2 11

Name and position of observer,

Vernon E. West

NOTES RELATING TO STATION NO. 2412

2 species shrimp

2 crabs

1 sponge

1 starfish

amphipods

RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. 7417

Date, Jan. 22, 1913

Time of day, 1.50 P.M.; of tide, $\frac{1}{2}$ ebb.

Locality, N. of Knight's Key, Fla.

Exact position, 2 mi. N. E. & E. of Raccoon
Bank.

Depth, 65 feet

Nature of bottom, rocky

Dredging instrument used, small scrape dredge

Direction of drift, South; distance, $\frac{1}{2}$ mile

Temperature of air, 67 therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, 1.0215 temp., 21.5

" at depth of fathoms, "

" at bottom, "

Number of salinometer, 7450

Barometer reading, 30.06

State of sky, Partly clear

Direction of wind, N. N. W.; force, 3

Rain.

Direction of surface current, ; force,

" of bottom " : force,

Name of vessel, Fish Hawk

Service to which attached, Fish Commission

Name and rank of commanding officer, James H. Smith
Boatswain, U. S. N.

Name and position of observer,

Vernon C. Hart

NOTES RELATING TO STATION NO. 7512

5 sponges

2 anthurus

1 shrimp

several annelids

several species of moll

RECORD OF DREDGING,

TEMPERATURE AND DENSITY.

Station No. *7415*
 Date, *Jan. 22, 1903*
 Time of day, *2:20 P.M.*; of tide, *1/2 ebb*
 Locality, *N. of Knight's Key, Fla.*
 Exact position, *1/2 mi. N.W. of Knight's Key*
 Depth, *2 fms.*
 Nature of bottom, *rocky*
 Dredging instrument used, *Small dredge*
 Direction of drift, *S.E.*; distance, *1/2 mi.*
 Temperature of air, *67* therm. No.,
 " of surface water, " "
 " at depth of fathoms, " "
 " at bottom, " "
 Density at surface, *1.0216* temp., *22*
 " at depth of fathoms, " "
 " at bottom, " "
 Number of salinometer, *7450*
 Barometer reading, *30.06*
 State of sky, *Partly clear*
 Direction of wind, *N.W.W.*; force, *3*
 Rain,
 Direction of surface current, ; force,
 " of bottom " ; force,
 Name of vessel, *U.S. Fish Com. Steamer*
 Service to which attached, *Fish Commission*
 Name and rank of commanding officer, *James B. Smith*
Brigadier, U.S.N.
 Name and position of observer, *Vernon E. West*

NOTES RELATING TO STATION NO. 7978.

few shells
2 species of mussels

RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. 7419

Date, Jan 22, 1903

Time of day, 2:45 P.M. of tide, $\frac{1}{2}$ ebb.

Locality, N. of Knights Key, Fla.

Exact position, $\frac{1}{2}$ mi. N. E. of Key
Island.

Depth, 7 feet

Nature of bottom, rocky

Dredging instrument used, small scrape dredge

Direction of drift, N. W. ; distance, $\frac{1}{2}$ mi.

Temperature of air, 67 therm. No.,

" of surface water,

" at depth of fathoms,

" at bottom,

Density at surface, 1.0217 temp., 22

" at depth of fathoms,

" at bottom,

Number of salinometer, 7450

Barometer reading, 30.06

State of sky, Partly clear.

Direction of wind, N. N. W. ; force, 3

Rain,

Direction of surface current, ; force,

" of bottom " ; force,

Name of vessel, Fish Hawk

Service to which attached, Fish Commission

Name and rank of commanding officer, James G. Smith
Boatswain, U. S. N.

Name and position of observer,

Vernon E. Wood

NOTES RELATING TO STATION NO. 2712

5 sponges
1 bryozoan
2 hydroids
1 Holothurian
2 rats
several shrimp
worms
4 gastropods

RECORD OF DREDGING,

TEMPERATURE AND DENSITY.

Station No. *7420*
 Date, *Jan. 22, 1903*
 Time of day, *3:25 P.M.* of tide, *3/4 ebb*
 Locality, *N. of Knight's Key, Fla.*
 Exact position, *1 1/2 mi. N. E. & N. of Knight's Key*
 Depth, *5 1/2 feet*
 Nature of bottom, *fine sh.*
 Dredging instrument used, *Smithsonian dredge*
 Direction of drift, *S. W.*; distance, *7/16 mi.*
 Temperature of air, *67* therm. No.,
 " of surface water, "
 " at depth of fathoms, "
 " at bottom, "
 Density at surface, *1.0220* temp., *22*
 " at depth of fathoms, "
 " at bottom, "
 Number of salinometer, *7451*
 Barometer reading, *30.05*
 State of sky, *partly clear*
 Direction of wind, *N. W. W.*; force, *3*
 Rain,
 Direction of surface current, : force,
 " of bottom " : force,
 Name of vessel, *U. S. Fish Comm.*
 Service to which attached, *Fish Commission*
 Name and rank of commanding officer, *James A. Smith*
Master, U. S. N.
 Name and position of observer, *Samuel E. West.*

NOTES RELATING TO STATION NO. 732

shallow
small in base
level water and water
level ground
level surface of top of ground

RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. 7821

Date, Jan. 23, 1903

Time of day, 10.05 A. M. of tide, $\frac{1}{2}$ flood.

Locality, Grassy Key Lake, Fla.

Exact position, $\frac{3}{4}$ mi. N. E. & N. of Bamboo Key

Depth, $9\frac{1}{2}$ feet.

Nature of bottom, soft

Dredging instrument used, small scrape dredge

Direction of drift, N. E. ; distance, $\frac{1}{6}$ mile

Temperature of air, 67 therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, 1.0221 temp., 21.5

" at depth of fathoms, "

" at bottom, "

Number of salinometer, 7452

Barometer reading, 30.09

State of sky, Partly cloudy

Direction of wind, N. W. E. ; force, 3

Rain,

Direction of surface current, ; force,

" of bottom " ; force,

Name of vessel, Fish Hawk

Service to which attached, Fish Commission

Name and rank of commanding officer, James A. Smith

Boatswain, U. S. N.

Name and position of observer,

Vernon C. West

NOTES RELATING TO STATION NO. 2422

Chungking, in the night.

RECORD OF DREDGING.

TEMPERATURE AND DENSITY.

Station No. 7422

Date, Jan. 23, 1903

Time of day, 11:25 A.M.; of tide, $\frac{3}{4}$ flood

Locality, Grassy Key Lake, Fla.

Exact position, $2\frac{3}{4}$ mi. N. N. W. $\frac{1}{2}$ W. of

Bunker Key

Depth, 9 feet

Nature of bottom, rocky

Dredging instrument used, $\frac{1}{2}$ m. with scrape dredgeDirection of drift, N. E.; distance, $\frac{1}{2}$ mile

Temperature of air, 65 therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, 1.0225 temp., 21

" at depth of fathoms, "

" at bottom, "

Number of salinometer, 7415

Barometer reading, 30.09

State of sky, Partly clear

Direction of wind, N. N. E.; force, 3

Rain,

Direction of surface current, ; force,

" of bottom " ; force,

Name of vessel, Fish Hawk

Service to which attached, Fish Commission

Name and rank of commanding officer, J. M. Smith

Boatswain, U. S. N.

Name and position of observer,

Vernon E. West.

NOTES RELATING TO STATION NO. 7922

3 species sponge

20 specimens

1 truncate

2 fresh

coral

1 gorgonian

RECORD OF DREDGING.

TEMPERATURE AND DENSITY.

Station No. 7423

Date, Jan. 23, 1903

Time of day, 12 45 M. : of tide, High Water

Locality, N. W. of Barker Key Lake, Fla.

Exact position, 5 mi N. W. E. N. of Bantow

Key

Depth, 10 feet

Nature of bottom, rocky

Dredging instrument used, Small scrape dredge

Direction of drift, N. E. ; distance, 1/2 mile

Temperature of air, 72

therm. No.,

" of surface water,

"

" at depth of fathoms,

"

" at bottom,

"

Density at surface, 1.0222

temp., 21

" at depth of fathoms,

"

" at bottom,

"

Number of salinometer, 7450

Barometer reading, 30.09

State of sky, Partly cloudy

Direction of wind, N. N. E. ; force, 3

Rain,

Direction of surface current, ; force, .

" of bottom " ; force,

Name of vessel, Fish Hawk

Service to which attached, Fish Commission

Name and rank of commanding officer, James A. Smith
Boatswain, U. S. N.

Name and position of observer,

Vernon C. West

NOTES RELATING TO STATION NO. 252

2 specimens

2 specimens

RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. 7424

Date, Jan. 23, 1903

Time of day, 1:10 P.M.; of tide, High water

Locality, Florida Bay, Fla.

Exact position, $7\frac{1}{2}$ miles N. W. $\frac{1}{4}$ W. of
Bamboo Key.

Depth, $10\frac{1}{2}$ feet

Nature of bottom, m. sh.

Dredging instrument used, Small scoop dredge

Direction of drift, N. W. ; distance, $\frac{1}{2}$ mile

Temperature of air, 69 therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, 1.0230 temp., 21

" at depth of fathoms, "

" at bottom, "

Number of salinometer, 7450

Barometer reading, 30.03

State of sky, Partly cloudy.

Direction of wind, N. N. E. ; force, 3

Rain,

Direction of surface current, ; force,

" of bottom " ; force,

Name of vessel, Fish Hawk

Service to which attached, Fish Commissioner

Name and rank of commanding officer, James A. Smith
Boatswain, U. S. N.

Name and position of observer,
Vernon E. West.

NOTES RELATING TO STATION NO. 2922

3 species fish
shrimp
crabs

3 sponges
2 sea urchins

RECORD OF DREDGING.

TEMPERATURE AND DENSITY.

Station No. 7425

Date, Jan. 23, 1903

Time of day, 1:35 P.M.; of tide, High water

Locality, Florida Bay, Fla.

Exact position, $7\frac{1}{2}$ mi. N. W. $\frac{1}{2}$ N. of
Bamboo Key.

Depth, 8 feet

Nature of bottom, sand & grass

Dredging instrument used, small seine dredge

Direction of drift, N. W. ; distance, $\frac{1}{4}$ mi.

Temperature of air, 69 — therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, 1.0231 temp., 20

" at depth of fathoms, "

" at bottom, "

Number of salinometer, 7450

Barometer reading, 30.01

State of sky, Partly cloudy

Direction of wind, N. N. E. ; force, 3

Rain,

Direction of surface current, ; force,

" of bottom " ; force,

Name of vessel, Fish Hawk

Service to which attached, Fish Commission

Name and rank of commanding officer, James A. Smith
Rear Admiral, U. S. N.

Name and position of observer,

Vernon C. West.

NOTES RELATING TO STATION NO. 7925

Very little change

RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. 7426

Date, Jan. 27, 1903.

Time of day, 1:30 P.M.; of tide, $\frac{1}{4}$ flood

Locality, Hawk Channel, Fla.

Exact position, $1\frac{3}{4}$ miles S. $\frac{1}{2}$ E. of Pigee

Depth, 3 fms.

Nature of bottom, Sand & grass

Dredging instrument used, Oyster dredge

Direction of drift, North; distance, $\frac{1}{8}$ mile

Temperature of air, 77 therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, 1.0230 temp., 23.5

" at depth of fathoms, "

" at bottom, 1.0230 " 23.5

Number of salinometer, 7450

Barometer reading, 29.96

State of sky, Clear

Direction of wind, E. S. E.; force, 2

Rain.

Direction of surface current, ; force,

" of bottom " ; force,

Name of vessel, Fish Hawk

Service to which attached, Fish Commission

Name and rank of commanding officer, James R. Smith

Boatswain, U. S. N.

Name and position of observer,

Vernon C. West,

NOTES RELATING TO STATION NO. 7426

1 br. abn

4 species of abn

1 shrimp

1 small star fish

2 small fish

RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. 7427

Date, Jan. 27, 1903

Time of day, 2:15 P. M.; of tide, $\frac{1}{2}$ flood

Locality, Hawk Channel, Fla.

Exact position, $3\frac{1}{2}$ mi. N. E. C. of San Bruno
light.Depth, $11\frac{1}{2}$ feet

Nature of bottom, rocky

Dredging instrument used, Oyster dredge

Direction of drift, S. E. ; distance, $\frac{1}{2}$ mi

Temperature of air, 77 therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, 1.0227 temp., 84.5

" at depth of fathoms, "

" at bottom, "

Number of salinometer, 7450

Barometer reading, 29.86

State of sky, Clear

Direction of wind, E. S. E. ; force, 2

Rain,

Direction of surface current, ; force,

" of bottom " ; force,

Name of vessel, Fish Hawk

Service to which attached, Fish Commission

Name and rank of commanding officer, James A. Smith

Boatswain, U. S. N.

Name and position of observer,

Vernon E. Hunt

NOTES RELATING TO STATION NO. 2522

Several large sponges
2 hedgehog sponges
1 sea urchin
1 large star fish
1 sea cucumber
1 large sand dollar
1 sea urchin
coral
several small crabs
gory opia
2 species of shrimp
2 species of squallor
tunabres

RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. 7428

Date, Jan. 27, 1903.

Time of day, 2.30 P.M. of tide, $\frac{1}{2}$ flood

Locality, Hawk Channel, Tex.

Exact position, 1 mi. N. N. W. $\frac{1}{2}$ W. of East
Widewater.

Depth, 2 $\frac{3}{4}$ fms

Nature of bottom, rocky

Dredging instrument used, Oyster dredge

Direction of drift, S. E. $\frac{1}{2}$ S. ; distance, $\frac{1}{4}$ mi

Temperature of air, 78 therm. No.,

" of surface water, ..

" at depth of fathoms, ..

" at bottom, ..

Density at surface, 1.0226 temp., 28.5

" at depth of fathoms, ..

" at bottom, ..

Number of salinometer, 7450

Barometer reading, 29.95

State of sky, Clear

Direction of wind, E. S. E. ; force, 2

Rain,

Direction of surface current, ; force,

" of bottom " ; force,

Name of vessel, Fish Hawk

Service to which attached, Fish Commission

Name and rank of commanding officer, James A. Smith
Boatswain, U. S. N.

Name and position of observer,
Homer C. West

NOTES RELATING TO STATION NO. 2246

1 coral

gorgonian

2. or 3. sponges

5 species of sponges
several species of crabs
several species of bivalves
3 species of sea urchins
several sand dollars

RECORD OF DREDGING,

TEMPERATURE AND DENSITY.

Station No. 7429

Date, Jan 27, 1903

Time of day, 4.15 P.M.; of tide, $\frac{3}{4}$ flood.

Locality, Hawk Channel

Exact position, $\frac{1}{2}$ mi. S. E. & S. of

S. E. end of Black Key.

Depth, $2\frac{1}{4}$ fms.

Nature of bottom, rocky

Dredging instrument used, Agate dredge

Direction of drift, S. E. ; distance, $\frac{1}{4}$ mile.Temperature of air, > 6

therm. No.,

" of surface water,

"

" at depth of fathoms,

"

" at bottom,

"

Density at surface, 1.0219

temp., 24.5

" at depth of fathoms,

"

" at bottom,

"

Number of salinometer, 7450

Barometer reading, 29.95

State of sky, Partly Cloudy

Direction of wind, East ; force, 3

Rain,

Direction of surface current, ; force,

" of bottom " : force,

Name of vessel, Fish Hawk

Service to which attached, Fish Commission

Name and rank of commanding officer, James A. Smith

Boatswain, U. S. N.

Name and position of observer,

Vernon E. Hunt

NOTES RELATING TO STATION NO. 7422

4 species of sponges
several species of corals
10 Topus
several sand dollars
104 pronged star fish
several small star fish
gorgonians
corals
bivalves

RECORD OF DREDGING.

TEMPERATURE AND DENSITY.

Station No. 3122

Date, Jan 22, 1902

Time of day, 8:40 A. M.; of tide, $\frac{1}{2}$ ebb.

Locality, Ennis Key Lake, Fla.

Exact position, $\frac{7}{8}$ mi. N. N. W. of east

Depth, 10 feet

Nature of bottom, rocky

Dredging-instrument used, small scrape-dredge

Direction of drift, N. W. ; distance, $\frac{1}{8}$ mi.

Temperature of air, 75 therm. No.,

" of surface water,

" at depth of fathoms,

" at bottom,

Density at surface, 1.0224 temp., 24

" at depth of fathoms,

" at bottom,

Number of salinometer, 7450

Barometer reading, 29.94

State of sky, Cloudy

Direction of wind, East ; force, 3

Rain,

Direction of surface current, ; force,

" of bottom " ; force,

Name of vessel, Fish Hawk

Service to which attached, Fish Commission

Name and rank of commanding officer, James A. Smith

R. A. Lawrence, U. S. N.

Name and position of observer,

Harmon S. Hunt

NOTES RELATING TO STATION NO. 7430.

- 2 species fish
- 1 large finger sponge
- 2 shrimp
- 2 crabs
- 1 urchin
- 1 small blenny

RECORD OF DREDGING.

TEMPERATURE AND DENSITY.

Station No. 7451

Date, Jan. 28, 1903

Time of day, 11:21 A. M. of tide, $\frac{3}{4}$ ebb

Locality, Grassy Key, Lake

Exact position, $3\frac{3}{4}$ mi. N. W. $\frac{1}{2}$ N. of east
end of Grassy Key.

Depth, 8 feet.

Nature of bottom, rocky

Dredging instrument used, small oyster dredge

Direction of drift, N. E. ; distance, $\frac{1}{2}$ mi.

Temperature of air, 75 therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, 1.0224 temp., 24

" at depth of fathoms, "

" at bottom, "

Number of salinometer, 7450

Barometer reading, 29.96

State of sky, Cloudy

Direction of wind, East ; force, 3

Rain,

Direction of surface current, ; force,

" of bottom " ; force,

Name of vessel, Fish Hawk

Service to which attached, Fish Commission

Name and rank of commanding officer, James A. ...
Lieutenant U. S. N.

Name and position of observer,

Vernon C. Hunt

NOTES RELATING TO STATION NO. 7431

a cidium

2 fish

coral

finger sponges

loggerhead sponges

gorgonian

RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. _____

Date, Jan. 29, 1903

Time of day, 9:10 A. M.; of tide, $\frac{1}{2}$ ebb.

Locality, Florida Bay, Fla.

Exact position, $6\frac{1}{4}$ mi N. W. x W. of Ch.

Depth, 8 feet

Nature of bottom, rocky

Dredging instrument used, small dredge

Direction of drift, N. E. ; distance, 16 mi.

Temperature of air, 74 therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, 1.0218 temp., 23

" at depth of fathoms, "

" at bottom, "

Number of salinometer, 745

Barometer reading, 29.94

State of sky, Clear

Direction of wind, East ; force, 3

Rain,

Direction of surface current, ; force,

" of bottom " ; force,

Name of vessel, Fish Hawk

Service to which attached, Fish Commission

Name and rank of commanding officer, James A. Smith

Boatman, U. S. N.

Name and position of observer,

Vernon B. Wheat

NOTES RELATING TO STATION NO. 7432

2. sharp

1. 0.015

1. 0.000000

1. 0.000000

1. 0.000000

RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. 7433

Date, Jan. 29, 1903

Time of day, 9:50 A.M.; of tide, $\frac{1}{2}$ ebb

Locality, Florida Bay, Fla

Exact position, $8\frac{3}{4}$ mi N.W. $\frac{3}{4}$ W. of Channel Key.

Depth, 9 feet

Nature of bottom, Sand & grass.

Dredging instrument used, Small scrape dredge

Direction of drift, N.W. ; distance, $\frac{1}{6}$ mi.

Temperature of air, 78 therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, 1.0219 temp., 23.5

" at depth of fathoms, "

" at bottom, "

Number of salinometer, 7450

Barometer reading, 29.93

State of sky, Partly cloudy

Direction of wind, East ; force, 3

Rain,

Direction of surface current, ; force,

" of bottom " ; force,

Name of vessel, Fish Hawk

Service to which attached, Fish Commission

Name and rank of commanding officer, James A. Smith
Boatswain, U. S. N.

Name and position of observer,

Vernon E. Wheat.

NOTES RELATING TO STATION NO. 2825

1 large shrimp
few amphipods

RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. 2434

Date, Jan. 29, 1903

Time of day, 10:20 A.M.; of tide, $\frac{1}{2}$ ebb.

Locality, Florida Bay, Fla.

Exact position, $7\frac{3}{4}$ mi. S. x W. $\frac{1}{2}$ W. of
Sandy Key.

Depth, $10\frac{1}{2}$ feet

Nature of bottom, rocky

Dredging instrument used, Small scrape dredge

Direction of drift, N. E. : distance, $\frac{1}{2}$ mi.

Temperature of air, 75 therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, 1.0220 temp., 23

" at depth of fathoms, "

" at bottom, "

Number of salinometer, 7456

Barometer reading, 29.94

State of sky, Partly cloudy

Direction of wind, East ; force, 2

Rain,

Direction of surface current, ; force,

" of bottom " ; force,

Name of vessel, Fish Hawk

Service to which attached, Fish Commission

Name and rank of commanding officer, James A. Smith
Lieutenant, U.S.N.

Name and position of observer,

Vernon E. West.

NOTES RELATING TO STATION NO. 2428

2 shrimps

2 crabs

1 cornfish

RECORD OF DREDGING. TEMPERATURE AND DENSITY.

Station No. 2435
 Date, Jan. 29, 1903
 Time of day, 10:45 A.M. of tide, Low water
 Locality, Florida Bay, Fla.
 Exact position, 5 mi. S. $\frac{1}{2}$ W. of Sandy Key
 Depth, 11 $\frac{1}{2}$ feet
 Nature of bottom, Sand, mud & grass
 Dredging instrument used, Small scrape dredge
 Direction of drift, C. N. E. ; distance, $\frac{1}{2}$ mi.
 Temperature of air, 75 therm. No.,
 " of surface water, "
 " at depth of fathoms, "
 " at bottom, "
 Density at surface, 1.0224 temp., 23
 " at depth of fathoms, "
 " at bottom, "
 Number of salinometer, 7450
 Barometer reading, 29.74
 State of sky, Clear
 Direction of wind, East ; force, 2
 Rain,
 Direction of surface current, ; force,
 " of bottom " ; force,
 Name of vessel, Fish Hawk
 Service to which attached, Fish Commission
 Name and rank of commanding officer, James A. Smith
 Boatman, U. S. N.
 Name and position of observer,
 Vernon C. West

NOTES RELATING TO STATION NO. 2525

Nothing on the dge

RECORD OF DREDGING,

TEMPERATURE AND DENSITY.

Station No. 7436

Date, Jan. 29, 1903

Time of day, 11.20 A.M.; of tide, Low water

Locality, Fish Hawk Bay, Fla.

Exact position, $7\frac{1}{2}$ mi. S. E. of Sandy Key

Depth, 10 feet

Nature of bottom, Hard sand.

Dredging instrument used, Small scrape dredge

Direction of drift, East; distance, $\frac{1}{2}$ mi.

Temperature of air, 76 therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, 1.0212 temp., 23.5

" at depth of fathoms, "

" at bottom, "

Number of salinometer, 7451

Barometer reading, 29.94

State of sky, Partly cloudy

Direction of wind, East; force, 2

Rain,

Direction of surface current, ; force,

" of bottom " ; force,

Name of vessel, Fish Hawk

Service to which attached, Fish Commission

Name and rank of commanding officer, James A. Smith
Boatswain, U. S. N.

Name and position of observer,

Vernon E. Hart

NOTES RELATING TO STATION NO. 7224

1. 2. 3.

RECORD OF DREDGING,

TEMPERATURE AND DENSITY.

Station No. 7437

Date, Jan. 29, 1903

Time of day, 11:50 A.M., of tide, $\frac{1}{4}$ floodLocality, ^{upper} Jewfish Bush Lake Fla.Exact position, $\frac{1}{4}$ m. S. E. x E. of

Landy Key

Depth, 10 feet

Nature of bottom, rocky

Dredging instrument used, Small seine dredge

Direction of drift, N. E. ; distance, $\frac{1}{6}$ mi.

Temperature of air, 76 therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, 1.0226 temp., 24

" at depth of fathoms, "

" at bottom, "

Number of salinometer, 7450

Barometer reading, 29.99

State of sky, Clear

Direction of wind, East ; force, 2

Rain,

Direction of surface current, ; force,

" of bottom " ; force,

Name of vessel, Fish Hawk

Service to which attached, Fish Commission

Name and rank of commanding officer, James A. Smith

Boatsman, U. S. N.

Name and position of observer,

Vernon C. Hunt

NOTES RELATING TO STATION NO. 295

1. fresh
2. brownish
3. spotted with
4. purple spots

RECORD OF DREDGING.

TEMPERATURE AND DENSITY.

Station No. 7436

Date, Jan. 27, 1903

Time of day, 1:05 P.M.; of tide, $\frac{1}{4}$ floodLocality, ^{upper} Jewfish Run Lake, Tex.Exact position, $6\frac{1}{4}$ mi. N.W. x N. of west

end of Long Key

Depth, 2 feet

Nature of bottom, barry

Dredging instrument used, Small dredge

Direction of drift, S.E.; distance, $\frac{1}{2}$ mile

Temperature of air, 77 therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, 1.0206 temp., 29

" at depth of fathoms, "

" at bottom, "

Number of salinometer, 7450

Barometer reading, 29.91

State of sky, Clear

Direction of wind, East; force, 2

Rain,

Direction of surface current, : force,

" of bottom " : force,

Name of vessel, Fish Hawk

Service to which attached, Fish Commission

Name and rank of commanding officer, James H. Smith

Boatman, U.S.N.

Name and position of observer,

Vernon E. Hunt

NOTES RELATING TO STATION NO. 7928

2 species fresh
1 or 2
1 in 1000

RECORD OF DREDGING.

TEMPERATURE AND DENSITY.

Station No. 7439

Date, Jan. 29, 1903

Time of day, 1:30 P.M.; of tide, $\frac{1}{4}$ flood

Locality, Florida Bay, Fla.

Exact position, $5\frac{1}{2}$ mi. N. N. W. $\frac{1}{4}$ W. of
Channel Key

Depth, 7 feet

Nature of bottom, sand, mud & grass

Dredging instrument used, small scrape dredge

Direction of drift, West ; distance, $\frac{1}{6}$ mile

Temperature of air, 77. therm. No.,

" of surface water,

" at depth of fathoms,

" at bottom,

Density at surface, 1.0209

temp., 28.

" at depth of fathoms,

" at bottom,

Number of salinometer, 7450

Barometer reading, 29.91

State of sky, Clear

Direction of wind, East ; force, 2

Rain,

Direction of surface current, ; force,

" of bottom " ; force,

Name of vessel, Fish Hawk

Service to which attached, Fish Commission

Name and rank of commanding officer, James A. Smith
Boatswain, U. S. N.

Name and position of observer,

Vernon B. Wright

NOTES RELATING TO STATION NO. 2922

3 specimens for

RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. 7440

Date, Jan. 29, 1903

Time of day, 2:25 P.M.; of tide, $\frac{1}{4}$ flood.

Locality, Grassy Key Lake, Fla.

Exact position, $2\frac{3}{4}$ mi. N. $\frac{1}{2}$ W. of

Channel Key

Depth, $7\frac{1}{2}$ feet

Nature of bottom, rocky

Dredging instrument used, Small seine dredge

Direction of drift, West; distance, $\frac{1}{2}$ mile

Temperature of air, 77

therm. No.,

" of surface water,

" at depth of fathoms,

" at bottom,

Density at surface, 1.0205

temp., 24.5

" at depth of fathoms,

" at bottom,

Number of salinometer, 7450

Barometer reading, 29.90

State of sky, Clear

Direction of wind, East; force, 2

Rain,

Direction of surface current, ; force,

" of bottom " ; force,

Name of vessel, Fish Hawk

Service to which attached, Fish Commission

Name and rank of commanding officer, James H. Smith

Boatswain, U. S. N.

Name and position of observer,

Vernon C. West.

NOTES RELATING TO STATION NO. 2720

1 species fish

1 small crab

1 small crab

2 murex shells

5 sponges

RECORD OF DREDGING.

TEMPERATURE AND DENSITY.

Station No. 7441

Date, Jan. 29, 1903

Time of day, 2:25 P.M. of tide, E. flood.

Locality, Grassy Key Lake, Fla.

Exact position, 2 mi. N. W. x N. of

Channel Key

Depth, 8 feet

Nature of bottom, rocky

Dredging instrument used, Small seine dredge

Direction of drift, S. W. ; distance, 1/2 mi.

Temperature of air, 77 therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, 1.0207 temp., 29.5

" at depth of fathoms, "

" at bottom, "

Number of salinometer, 7450

Barometer reading, 29.90

State of sky, Clear

Direction of wind, East ; force, 2

Rain,

Direction of surface current, ; force,

" of bottom " ; force,

Name of vessel, Fish Hawk

Service to which attached, Fish Commission

Name and rank of commanding officer, James H. Smith

Boatman, U. S. N.

Name and position of observer,

Vernon C. Wright

NOTES RELATING TO STATION NO. 348

Several species of sponges

Crab

Starfish

Sea urchin

Deep coral

Deep coral

RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. 7442

Date, Jan. 29, 1902

Time of day, 3:15 P. M.; of tide, $\frac{1}{2}$ Flood

Locality, Channel Key Lake, Fla.

Exact position, $1\frac{3}{4}$ mi. E. of Channel Key.

Depth, 10 feet

Nature of bottom, sand, grass & little rocks.

Dredging instrument used, Small scrape dredge

Direction of drift, E. & S.; distance, $\frac{1}{4}$ mi.

Temperature of air, 77 therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, 1.0208 temp., 28.2

" at depth of fathoms, "

" at bottom, "

Number of salinometer, 7436

Barometer reading, 29.89

State of sky, Clear

Direction of wind, East; force, 2

Rain,

Direction of surface current, ; force,

" of bottom " ; force,

Name of vessel, Fish Hawk

Service to which attached, Fish Commission

Name and rank of commanding officer, James H. Smith

Boatman, J. S. H.

Name and position of observer,

Wm. C. Hart.

NOTES RELATING TO STATION NO. 2492

Several univoltines

crabs

1 squatter

2 species of fish

finger sponges

Several varieties of non-commercial sponges

RECORD OF DREDGING.

TEMPERATURE AND DENSITY.

Station No. 7443

Date, Jan. 30, 1903

Time of day, 8:35 A. M.; of tide, $\frac{1}{4}$ ebb.

Locality, Channel Key Lake, Fla.

Exact position, 2 mi. N. N. W. $\frac{1}{2}$ W. of West

end of Long Key

Depth, 5 feet

Nature of bottom, Hard sand

Dredging instrument used, Small scoop dredge

Direction of drift, N. E. ; distance, $\frac{1}{16}$ mi.

Temperature of air, 74 therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, 1.0252 temp., 24

" at depth of fathoms, "

" at bottom, "

Number of salinometer, 7450

Barometer reading, 29.94

State of sky, Clear

Direction of wind, N. N. E. ; force, 3

Rain,

Direction of surface current, ; force,

" of bottom " ; force,

Name of vessel, Fish Hawk

Service to which attached, Fish Commission

Name and rank of commanding officer, James A. Smith

Boatswain, U. S. N.

Name and position of observer,

Herman E. Went.

NOTES RELATING TO STATION NO. 3443

1 fish

shrimp

few amphipods

few crabs

RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. 7444

Date, Jan. 30, 1903

Time of day, 9:00 A.M.; of tide, $\frac{1}{4}$ ebb.

Locality, ^{Lower} Jewfish Bush Lake, Fla.

Exact position, $3\frac{1}{2}$ mi N. x W. $\frac{1}{2}$ W. of West end of Long Key.

Depth, 7 feet

Nature of bottom, rocky

Dredging instrument used, Small scrape dredge

Direction of drift, N. N. E.; distance, $\frac{1}{6}$ mi.

Temperature of air, 75 therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, 1.0204 temp., 23.5

" at depth of fathoms, "

" at bottom, "

Number of salinometer, 7450

Barometer reading, 29.96

State of sky, Clear

Direction of wind, N. N. E.; force, 3

Rain,

Direction of surface current, ; force,

" of bottom " ; force,

Name of vessel, Fish Hawk

Service to which attached, Fish Commission

Name and rank of commanding officer James A. Smith
Boatswain, U. S. N.

Name and position of observer,

Vernon E. West.

NOTES RELATING TO STATION NO. 7444.

3 species fish

2 " wabs

2 shrimp

2 sheeps wool sponges

1 grass sponge

several non-commercial sponges

g or g onian

acridium

univabres.

RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. 7445

Date, Jan. 30, 1903

Time of day, 9:35 A. M.; of tide, $\frac{1}{2}$ ebb.

Locality, ^{upper} Jewfish Bush Lake, Fla.

Exact position, 5 mi. N. W. $\frac{3}{4}$ N. of West end of Long Key.

Depth, $8\frac{1}{2}$ feet

Nature of bottom, *barry*

Dredging instrument used, Small scrape dredge

Direction of drift, N. W. ; distance, $\frac{1}{4}$ mi.

Temperature of air, 75 therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, 1.0205 temp., 24

" at depth of fathoms, "

" at bottom, "

Number of salinometer, 7450

Barometer reading, 29.96

State of sky, Clear

Direction of wind, N. N. E. ; force, 3

Rain,

Direction of surface current, ; force,

" of bottom " ; force,

Name of vessel, Fish Hawk

Service to which attached, Fish Commission

Name and rank of commanding officer, James A. Smith
Boatsman, U. S. N.

Name and position of observer,
Vernon E. West

NOTES RELATING TO STATION NO. 2445

2 shrimps

1 squiller

gorgonian

2 non-commercial sponges